

M57: A FLEXIBLE MONOPOLAR STIMULATOR FOR ANIMAL STUDIES IN AUDITORY PROSTHESES

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This paper presents the design of a bench-top monopolar stimulator that can be used for animal studies in cochlear implants. The stimulator is controlled by three high-speed digital Input/Output (I/O) cards manufactured by National Instruments Corporation and is electrically isolated. The stimulator could provide 16 independently controlled charge-balanced monopolar channels, each varying in stimulation parameters. Four stimulation patterns, which are symmetric biphasic, non-symmetric biphasic, triphasic and amplitude modulate biphasic, are available in either simultaneous or interleaved modes. A user-friendly and intuitive Matlab Graphical User Interface (GUI) is provided with the stimulator board to simplify its control and use.

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